PLANNING & PROGRAMMING DIVISION
PLANNING RESEARCH SECTION
TRAFFIC ANALYSIS UNIT

TAU 3075

T.H. 8

S.P. 2712-10, 2754-06, 6202-30

Northeast Jct. T.H. 35W to Stinson Boulevard

Prepared: September, 1964

MINNESOTA HIGHWAY DEPARTMENT

U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

STATE OF MINNESOTA

Office Memorandum

DEPARTMENT Highway

TO : T. S. Thompson

DATE: September 9, 1964

FROM : Johan Nygaard

SUBJECT: T.H. 8, S.P. 2712-10, 2754-06, 6202-30,
Northeast Jct. T.H. 35W to Stinson Boulevard

This report is transmitted in response to your January 14, 1964 request for 1984 ADT, DHV and HCADT for the project route shown on the map on page 2. The 1984 ADT and DHV have been previously transmitted in TAU 336 on July 2, 1964. The 1984 HCADT in this transmittal is attendant to the 1984 ADT transmitted in TAU 336.

For each segment numbered on the map on page 3, the following data are tabulated on the form on page 4.

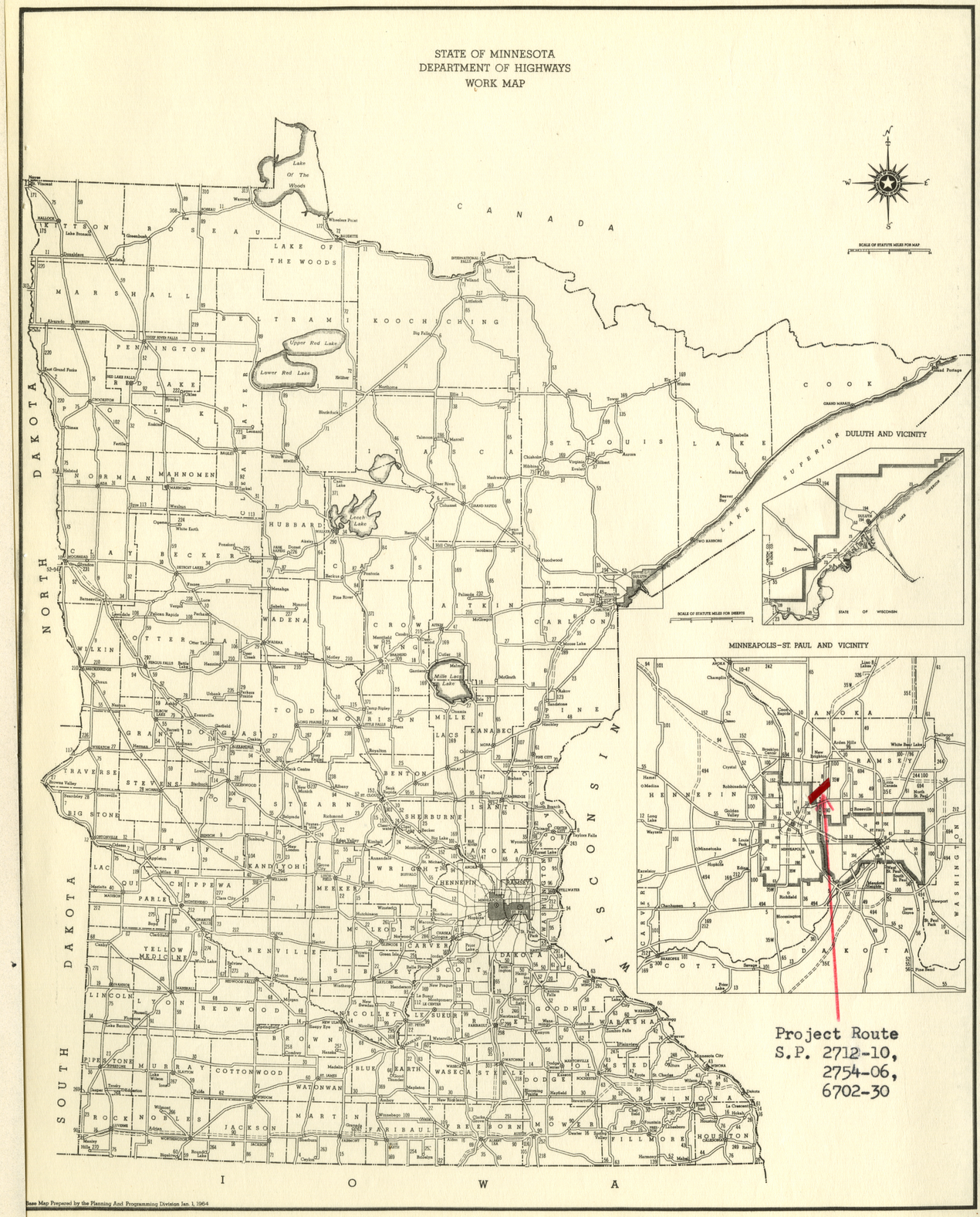
a. Vehicle Type Distribution

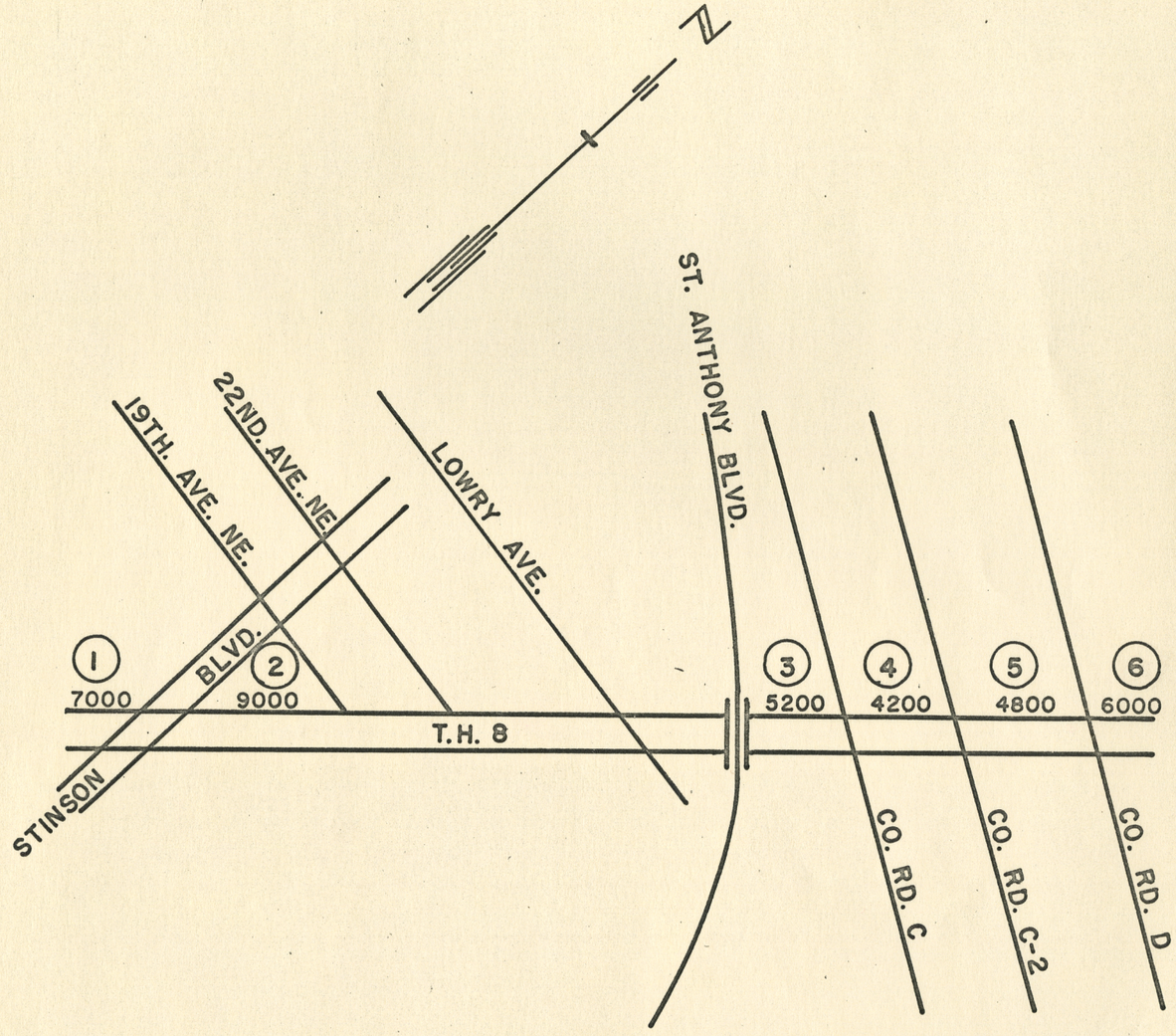
b. Total ADT

c. Total Heavy Commercial ADT

The 1962 ADT for segment 2 having the highest 1984 ADT is 11400. TAU 336 explains the drop in ADT from 1962 to 1984.

This request was initiated by B. L. Warzala for geometrics.





T.H. 8

SP 2712-10, 2754-06, 6202-30

N.E. JCT. T.H. 35W TO STINSON BLVD.

LEGEND

SEGMENT NUMBER ---------- (2)

1984 ADT ----------9000

Form 2985 (9-63)

TRAFFIC ESTIMATE DATA

DESIGN YEAR 1984 PART 1 OF 1

FOR

T.H. 8 S.P. 2712-10, 2754-06, 6202-30 LENGTH - MILES

COUNTY Ramsey & Hennepin LOCATION Northeast Junction with TH 35W to Stinson Boulevard

BASED ON

1984 ADT FROM TRAFFIC ANALYSIS UNIT

SHOWING

TOTAL ADT ON SEGMENTS 1 THROUGH 6 AS DEFINED ON ATTACHED INDEX MAP

VEHICLE * TYPE	SEGMENT NUMBER										
	1	2	3	4	5	6					
0	6550	8420	4700	3820	4400	5500					
1	160	200	170	140	150	200					
2	80	100	90	70	70	100					
3	40	50	40	30	30	30					
4	40	50	40	30	30	30					
5	110	150	140	90	100	120					
6	20	30	20	20	20	20					
TOTAL ADT	7000	9000	5200	4200	4800	6000					
TOTAL H. COMM. ADT	450	580	500	380	400	500					
TOTAL DHV	650	800	540	560	580	665					
DIRECTIONAL DISTRIBUTION	69-31	66-34	56-44	74-26	78-22	66-34					

* VEHICLE TYPE CODE

0 = PASSENGER CARS AND 4 TIRE TRUCKS
1 = SINGLE UNIT-2 AXLE-6 TIRE TRUCKS
2 = SINGLE UNIT-3 AXLE TRUCKS
3 = TRACTOR-TRUCK OR SEMI-TRAILER- 3 AXLES
4 = TRACTOR-TRUCK OR SEMI-TRAILER - 4 AXLES
5 = TRACTOR-TRUCK OR SEMI-TRAILER - 5 AXLES
6 = BUSES AND TRUCKS WITH TRAILERS

In the last three years truck weighing operations have been conducted on TH 8 at a point 3.0 miles northeast of the junction with TH 36. While each truck was being weighed, the driver was interviewed in order to obtain data on the trip length, origin and destination of the trip, commodity carried, and other facts pertaining to the trip and operation of the vehicle.

The origins and destinations of the heavy truck interviewed revealed those heavy trucks beginning or ending trips at the adjacent properties served by TH 8. These trips would not be eligible for diversion to TH 35W and, hence, were assigned to TH 8.

The heavy truck interviews also revealed those truck trips which have no contacts with any of the local properties served by TH 8 and which can be considered through trips with respect to the limits of the project section of TH 8. These through heavy truck trips have a point of choice between TH 8 and TH 35W both at the northeast and southwest junctions of TH 8 and TH 35W.

To divert through trips from an existing facility to a parallel interstate freeway facility, the BPR has found that the most acceptable method is based upon travel time advantages.

Although the TH 35W alternative involves 4.2 miles, while the TH 8 alternative involves only 3.6 miles, the higher speeds assumed for TH 35W result in a travel time advantage of 0.71 via TH 35W. Thus, a trip performed via TH 35W takes, on the average, only 71% as long as a trip performed via TH 8 between the two points of choice. The 0.71 travel time advantage calculated for TH 35W is reasonable considering the relative attractiveness of the two facilities. For example, TH 35W as an interstate freeway facility, will have complete control of access with all intersecting routes crossing at higher or lower grades. Although TH 8 is designated as an expressway, there are four semaphore installations on TH 8, one at the junction with Stinson Boulevard, one at the entrance to Sunset Memorial Cemetery, another at the entrance to the St. Anthony Center, and still another at the junction with County Road C. Moreover, there are several other streets crossing TH 8 without any grade separations. It is thought that the cumulative effect of the above factors would make TH 8 undesirable relative to TH 35W for through heavy truck trips.

Column 1 of the following table tabulates the number of heavy trucks of each type which were counted in a 24-hour vehicle classification taken on TH 8 in 1963. The percentage of interviews in each heavy truck type which were assigned to TH 8 after diversion to TH 35W were applied to the 1963 ADT in column 1 for each heavy truck type. The resulting figures in column 2 are the 1963 ADT remaining on TH 8 in each heavy truck type after the assignment to TH 35W.

HEAVY TRUCK TYPE	(1) 1963 ADT for segment 5 of TH 8 without TH 35W in Place	(2) 1963 ADT for segment 5 of TH 8 with TH 35W in Place	(3) 1984 ADT for segment 5 of TH 8
2 axle dual tire	330	98	150
3 axle single unit	113	27	70
3 axle tractor-semi.	46	17	30
4 axle tractor-semi.	69	12	30
5 axle tractor-semi.	226	35	100

Therefore, with the assumption of a completed interstate system, the heavy truck trips using TH 8 in 1963 consist of all those trips serving the adjacent properties on TH 8 and 15% of the through heavy truck trips.

Statewide trends in vehicle type distributions provided the ratio of growth between 1984 and 1963 for each heavy truck type. These growth ratios were applied to each 1963 heavy truck ADT in column 2 in order to obtain the 1984 ADT for each heavy truck type in column 3.

According to TAU 336, "traffic volumes on TH 8 in this area are expected to reach a maximum prior to the completion of TH 35W and to decline thereafter. Most of the through traffic should find TH 35W to be a superior facility." It should be emphasized that the request initiating this transmittal requires the 1984 heavy commercial ADT volumes for this transmittal. However, prior to the completion of TH 35W, heavy commercial ADT volumes will be substantially higher on TH 8. The ramps connecting TH 8 with TH 35W at the northeast end of the project route will be completed by the end of 1964. TH 35W from the junction with TH 10 to the junction with TH 280 will be completed by the end of 1964. By the end of 1967, TH 35W will probably be completed to a point just east of Stinson Bouvelard. However, TH 35W will probably not be completed to the southwest junction of TH 8 until the end of 1972. So, the complete effect of all heavy commercial diversions from TH 8 to TH 35W will not be felt until 1972 when the TH 35W alternative is completed between the northeast and southwest junctions with TH 8. In summary, TH 8 will carry a substantially higher heavy commercial volume in the next few years than it will carry in 1984. The number of heavy commercial diversions from TH 8 to TH 35W will increase as more of TH 35W is completed between the two points of choice with TH 8. By 1972 the complete impact of a completed TH 35W should be observed. Consequently, the 1984 heavy commercial ADT volumes transmitted in this report reflects the full impact of the TH 35W alternative. Yet, in the next few years, heavy commercial ADT volumes on TH 8 will be substantially higher because many heavy commercial trips should find TH 8 to be more attractive than a partially completed TH 35W.